

With analog signal (mA or V), switch output and integrated temperature measurement

DTAIL Series Safety Pressure Transmitter



The DTAIL fulfils the requirements of EN 1114-1 for overpressure protection of extrusion lines in combination with temperature measurement.

The auto-zero function enables calibration directly on the device or from the observation point/ controller. On the output side, the melt pressure transmitter provides a switch output in addition to the analog signal which enables switching off the machine in case of overpressure according to EN 13849-1, PL=c. One process connection suffices in order to measure both values.

Technical specifications

Pressure range	0..50 to 0..2000 bar 0..725 to 30000 psi
Accuracy incl. linearity, hysteresis, and reproducibility in % to full scale	0.15 % 0.25 % 0.50 %
Reproducibility in % to full scale	± 0.1 %
Membrane coating	G-Coating
Resolution	16 Bit
Max. pressure overload without influence on operating value	2 x range up to 1000 bar (14500 psi) 1.5 x pressure range over 1000 bar (14500 psi)
Bridge resistance	350 Ω Wheatstone Bridge
Temperature element:	Type J; K; L; PT 100
Heater:	24V 150W
Supply voltage	15..32 V DC
Output signal	4..20 mA 0..20 mA 0..10 V
Transmission medium	NTX™ as standard
Process connection	1/2" 20 UNF or M18 x 1.5
Calibration point	80% of measuring range
Insulation resistance	>1000 MOhm at 50 V
Max. temperature at diaphragm	300°C NTX™ (572°F) 400°C Hg (750°F) 500°C NaK (932°F)
Max. temperature at terminal head during operation	- 40 .. + 85°C (40°F..185°F)
Zero deviation with temperature Variations at the diaphragm:	± 0.02% from final value/°C With standard diaphragm, transmission medium NTX™ and 1/2"20 UNF
Zero deviation with temperature Variations at the measuring head:	± 0.003% from final value/°C
Ingress protection housing	IP 65 /
Ingress protection connector	IP 55
Max torque	1/2" 20 UNF 30 Nm (22 lbf ft) M18 x 1.5 50 Nm (32 lbf ft)

- Switch output for overpressure protection
- Switch-off pressure freely selectable
- Analog output mA or V
- Combined pressure and temperature measurement
- Performance Level c according to EN13849-1
- TÜV certified
- G-coating to counteract adhesive materials
- Compatible with common OEM sensors
- Longlife design



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Order specification DTAIL Series
Safety Pressure Transmitter with V or mA output and temperature measurement

valid from: 01.01.2015

Order specification	-	-	-	-	-	-	-	-	-	-	-
Standard configuration	DTAIL										
Total measurement error FSO											
0.15%	*1	0									
0.25%	*1	1									
0.50%		2									
Output signal											
4..20 mA (3-wire)			E 3								
4..20 mA (4-wire)			E 4								
0..20 mA (3-wire)			D 3								
0..20 mA (4-wire)			D 4								
0..10 V (3-wire)			C 3								
0..10 V (4-wire)			C 4								
Thermocouple											
Thermocouple type J			TH J								
Thermocouple type L			TH L								
Thermocouple type K			TH K								
Meas. resistance PT-100 (2-wire)			PT 2								
Meas. resistance PT-100 (3-wire)			PT 3								
Meas. resistance PT-100 (4-wire)			PT 4								
Thread connection											
1/2" UNF 2A (Standard)			12 A								
M18 X 1.5 A			18 A								
M18 X 1.5 B			18 B								
Pressure range											
17 bar			B 17 E								
35 bar			B 35 E								
50 bar			B 50 E								
100 bar			B 10 Z								
200 bar			B 20 Z								
350 bar			B 35 Z								
400 bar			B 40 Z								
500 bar			B 50 Z								
600 bar			B 60 Z								
700 bar			B 70 Z								
800 bar			B 80 Z								
1000 bar			B 10 H								
1400 bar			B 14 H								
2000 bar			B 20 H								
250 psi			P 25 Z								
500 psi			P 50 Z								
750 psi			P 75 Z								
1500 psi			P 15 H								
3000 psi			P 30 H								
5000 psi			P 50 H								
6000 psi			P 60 H								
7500 psi			P 75 H								
9000 psi			P 90 H								
10000 psi			P 10 T								
12000 psi			P 12 T								
15000 psi			P 15 T								
20000 psi			P 20 T								
30000 psi			P 30 T								
Shaft length (rigid)											
152 mm, 6" (Standard)			S 0								
203 mm, 8.0"			S 1								
254 mm, 10.0"			S 2								
318 mm, 12.5"			S 3								
356 mm, 14.0"			S 4								
457 mm, 18.0"			S 5								
38 mm, 1.5"	*4		S 6								
50 mm, 2.0"	*4		S 7								
76 mm, 3.0"			S 8								
Special length			S 9								

Length of flexible capillary												
No flexible capillary												F 0
457 mm, 18" (Standard)												F 5
610 mm, 24"												F 6
760 mm, 30"												F 8
Special length												F 9
Diaphragm												
Stainless steel (Standard)	*2											R
Alloy C4	*2											H
Alloy 718	*2											I
Stainless steel/GX-Coating	*2											B
Alloy C4/GX-Coating	*2											C
Alloy 718/GX-Coating	*2											D
Special diaphragm												S
Sensor medium												
Mercury-free (NXT 300°C / 572°F)												W
Mercury-free high temp. (NaK 500°C 932°F)	*5											N
Mercury (Hg 400°C / 752°F)												M
Electrical connection												
7-pole connection (Standard)	*6											7 P
6-pole connection (Standard)	*6											6 P
7-pole connection (with 80% function)	*6											7 S
8-pole connection												8 P
8-pole connection (with 80% function)												8 D
8-pole connection (Binder) M16	*6											8 B
Cable exit stainless steel , 3 m	*3											3 3
Optical Auto-Zero activation												A
Cut-off pressure												
in % of measuring range (min. 0.21=21%)												0 0 0
Special design												X X X

*1 Only available >= 100 bar (1500 psi)

*2 As a standard, all diaphragms are coated with Gneuss unique "G-Coating" against adhesive and glutinous media. Special coatings are available on request.

*3 For cable exit, please confirm cable length. Unless specified, the standard length will be 3 m.

*4 Only available with flexible capillary

*5 Mercury-free High Temperature >= 300°C (only available for 100 bar (1500 psi) up to 800bar (12000 psi))

*6 Available with optical Auto-Zero